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UNITED STATES DEPARTMENT OF ENERGY

ROCKY FLATS PUBLIC COMMENT MEETING

Interim Remedial Action at OU4
Solar Evaporation Ponds

OCTOBER 30, 1991

WESTMINSTER RECREATION CENTER
10455 SHERIDAN BOULEVARD

WENDY GREEN - Moderator

PANEL

ARTURO DURAN, Environmental Protection Agency
BRENT LEWIS, Department of Energy
NOREEN MATSUURA, Colorado Department of Health
RANDY OGG, EG&G

ADMIN RECORD

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By [Signature]
Date 11/7/91

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P R O C E E D I N G S

7:10 p.m.

MS. WENDY GREEN: I'd like to take this opportunity to welcome you on behalf of the U.S. Department of Energy. Tonight's meeting is officially designated as a hearing for receiving comments from the public regarding the Department of Energy's Proposed Interim Measure/Interim Remedial Action Decision Document for the Operable Unit #4 Solar Evaporation Ponds at the Rocky Flats Plant.

This meeting is being held on the 30th day of October, 1991, in the Westminster Recreation Center located at 10455 Sheridan Boulevard in Westminster, Colorado. We are commencing at 7:10 p.m.

My name is Wendy Green and I'm the Meeting Officer for tonight's public hearing. I work for the Center for Public-Private Sector Cooperation at the Center for the Improvement of Public Management, both of which are affiliated with the Graduate School of Public Affairs at the University of Colorado at Denver. In addition to technical facilitation duties like I am performing this evening, my work with the Center includes the direction of several management development programs for public sector managers and research and public policy.

I've been asked by the Department of Energy to conduct this public hearing as an independent, unbiased, and

1 neutral moderator. What that means is that I'm not an
2 advocate for or against any party, nor am I an advocate for
3 or against any position taken by any party during tonight's
4 hearing. It's my job to insure that any interested indi-
5 viduals and organizations have the opportunity to comment on
6 the Department of Energy's Proposed Interim Measure/Interim
7 Remedial Action Decision Document for the Operable Unit #4
8 Solar Evaporation Ponds at Rocky Flats Plant. That document
9 describes the proposed approach for storing and treating the
10 water in the solar ponds and the contaminated groundwater
11 that's collected in the French drain system on the operable
12 unit. The document supports the Resource, Conservation, and
13 Recovery Act partial closure activities at the site in
14 accordance with the agreement and principle signed by the
15 State of Colorado and the U.S. Department of Energy. Copies
16 of the document are available for public review at several
17 information repositories listed on a fax sheet that you can
18 get at the registration table. Your comments on the Depart-
19 ment of Energy's Proposed Interim Measure/Interim Remedial
20 Action Decision Document for the Operable Unit #4 Solar
21 Evaporation Ponds at the Rocky Flats Plant will be useful to
22 the Department of Energy in the preparation of the final
23 document.

24 In a few minutes, I'm going to go over the proce-
25 dures that we'll follow for anybody that would like to make

1 comments this evening. But, before I do that, I'd like to
2 introduce the individuals who are serving on the panel that
3 are taking comments this evening.

4 On the far end of the panel is Randy Ogg who is
5 with EG&G Rocky Flats. Next to him is Brent Lewis who is
6 from the Department of Energy's Rocky Flats Field Office.
7 The third person on the table is Arturo Duran who is with
8 the U.S. Environmental Protection Agency. And, the person
9 closest to me is Noreen Matsuura who is with the Colorado
10 Department of Health.

11 Before we go any further, Mr. Ogg has a brief
12 presentation to make on the Proposed Interim Measure/Interim
13 Remedial Action Decision Document.

14 MR. OGG: Again, my name is Randy Ogg. I work for EG&G
15 Rocky Flats. I've been employed with EG&G for approximately
16 a year and a half now.

17 Just a little bit of history in terms of the
18 IM/IRA, on October 17 of this year, DOE Rocky Flats Office,
19 the Colorado Department of Health, and the Environmental
20 Protection Agency conducted a quarterly environmental rest-
21 oration public meeting. One of the topics at that meeting
22 was the Proposed Interim Measure/Interim Remedial Action
23 Decision Document for the Solar Evaporation Ponds at Oper-
24 able Unit #4. One thing I'd like to emphasize is that this
25 IM/IRA Decision Document was strictly a function of support-

1 ing the RCRA partial closure activities and is very much
2 independent of the IM/IRA with respect to the IAG scheduled
3 in April of 1994.

4 A scenario view of the solar ponds. Primarily,
5 the solar ponds were constructed in 1952 basically to store
6 and treat low-level radioactive wastes, nitrates, treated
7 acidic solutions, and other miscellaneous types of waste
8 produced during productions at Rocky Flats. This is Pond
9 207C, Pond 207A, and these are the B series ponds, B North,
10 Center, and South. Again, the solar evaporation pond area
11 began operations in 1952 with the construction of the orig-
12 inal two impoundments which were located in this area right
13 there. In 1983, all process waste generated at Rocky Flats
14 was discontinued for storage and treatment at the solar
15 ponds. However, the B series ponds, specifically 207B North
16 and Center, are currently being used to store and treat
17 contaminated groundwater that's intercepted in a system we
18 call the interceptor trench system located just north of the
19 ponds in this area right here.

20 The regulatory drivers associated with the IM/IRA
21 for OU4 include the agreement and principle which was signed
22 by DOE and the State of Colorado in June of 1989. And, in
23 essence, the agreement and principle requires the source
24 removal or dewatering of the ponds and removal of the sludge
25 and transformation of that material to a solid form, specif-

1 ically pondcrete.

2 An additional regulatory driver is the interagency
3 agreement which was signed by EPA, DOE, and CDH in January
4 of this year and the IAG requires that we implement the
5 Phase 1 RCRA facility investigation, remedial investigation,
6 and work plan in February of 1992. The work plan is pri-
7 marily a function of characterizing the source and soil at
8 this particular operable unit. And, in addition, the U.S.
9 EPA and CDH also is requiring us to develop and implement an
10 IM/IRA for these activities.

11 OU4 specific criteria for the IM/IRA is basically
12 the document is a means of presenting a system of storing
13 and treating contaminated groundwater emanating from the
14 solar evaporation ponds area. The IM/IRA components are
15 expected to be utilized for approximately five to seven
16 years and also the IM/IRA components may be used for the
17 interagency agreement IM/IRA scheduled again for April of
18 1994.

19 This is an aerial view of Rocky Flats looking to
20 the northwest. What I would like to sort of get across to
21 you here is give you a perspective of where the solar ponds
22 are located with respect to the plant. Here's the solar
23 ponds right here. And, the solar ponds are located in what
24 we call a protected area which is the main secured area for
25 the Rocky Flats Plant.

1 Another aerial view of the ponds. Again, this is
2 Pond 207C, 207A, and the B series ponds. You're looking to
3 the south here. Some physical parameters, the total
4 capacity of the solar ponds is approximately 10.7 million
5 gallons and the size is approximately 5.4 acres.

6 This is a slide depicting the groundwater plume
7 emanating from the solar ponds area. In general, ground-
8 water flows from the west to the east. This is North
9 Walnut Creek right in here. The main types of constituents
10 associated with the groundwater contamination are nitrates,
11 metals, and radionuclides.

12 I hope everybody can see this slide okay because
13 what I'm trying to show here is the interceptor trench
14 system. Here's the solar ponds, a schematic of the solar
15 ponds. This is to the north and again if you go back to
16 that last slide--second to the last slide, you can see that
17 the plume is going to the north, northeast. Again, this is
18 the interceptor trench system. It was primarily installed
19 to collect contaminated groundwater emanating from the
20 ponds, mainly to prevent any flow of contamination into
21 North Walnut Creek which is right here. The interceptor
22 trench system was installed in the early 70's and further
23 upgraded in the early 80's.

24 The IM/IRA components basically consist of three
25 modular tanks, three flash evaporators, and associated

1 piping connecting those units. The modular tanks, we are
2 proposing to construct three 500,000 gallon modular tanks.
3 Two of the tanks would be operational and one tank would be
4 utilized as a contingency tank in the event that we exper-
5 ienced a leak from one of the tanks. The tank components
6 primarily consist of galvanized steel wall structures, two
7 80 mil high density polyethylene liners, high density poly-
8 ethylene geonets, leak detection system, a sump, and an
9 automatic diversion mechanism to basically divert or re-
10 route, if you will, water to a different facility in the
11 event that we reached our capacity.

12 This is a photo of what a modular tank looks like.
13 The black material inside the tank is the high density
14 polyethylene, the galvanized steel wall structures, sup-
15 ports, et cetera. We would utilize a non-earthen base such
16 as asphalt or something to that effect. This tank here, I
17 believe, is a million gallons and, as I stated earlier, ours
18 would be 500,000 gallons and, as you can see, this was
19 rectangular in shape and ours will be circular in shape.

20 This is the leak detection system that's external
21 to the tank. It is integrated into the secondary liner.
22 So, in the event that the primary liner breaches, water
23 would flow into a sump nearby this leak detection system and
24 be detected in this pipe here. It would be monitored on a
25 daily basis, as well.

1 Flash evaporators, basically they are sealed
2 units. No air emissions to the atmosphere, whatsoever. The
3 capacity of the flash evaporators, they could treat approxi-
4 mately 18,000 gallons of contaminated groundwater per day
5 and again we will have three units which calculates to about
6 54,000 gallons per day. They're very energy efficient. The
7 heat that is generated from the evaporators would be uti-
8 lized in the processes, as well. And, this is a picture of
9 what one of the flash evaporators looks like.

10 And, again, just to reiterate the process descrip-
11 tion, the contaminated groundwater is collected in the
12 interceptor trench system and eventually flows to the inter-
13 ceptor trench pump house. The water at that point is pumped
14 to the modular tanks. From the modular tanks, the water is
15 pumped to the flash evaporators for treatment. The two by-
16 products that we end up with is distilled water and a con-
17 centrate brine. The concentrate brine is further treated at
18 the 374 evaporator, and after that point, it is transformed
19 into Salt Creek.

20 With respect to the IM/IRA schedule, we initiated
21 a public comment period on September 9 of this year and it
22 is scheduled to end on November 9. We will be revising the
23 IM/IRA document in consideration with public comments and
24 develop a comment responsiveness summary, hopefully, by
25 November 28 of 1991. That's our target date. And, we hope

1 to obtain EPA and CDH approval in mid-December, and assuming
2 this schedule, we plan on initiating operations in March of
3 1992.

4 And, that's pretty much of a summary of what we
5 went through on October 17. I'm not sure who was all here
6 for that, but, nonetheless, that's basically an overview of
7 what our proposed activities are for the IM/IRA with respect
8 to Operable Unit #4.

9 MS. GREEN: Okay. Thank you, Mr. Ogg.

10 A verbatim transcript of any oral comments that
11 are received tonight will be included in the Department of
12 Energy's record of these proceedings along with copies of
13 any written documents that are submitted. The Department of
14 Energy will make the transcripts available at local informa-
15 tion repositories as soon as possible and a list of the
16 locations of those reading rooms is available as a handout
17 at the registration table.

18 You can also submit comments by mail by sending
19 them to Beth Brainard who is the Public Affairs Officer at
20 the DOE's Rocky Flats Field Office by November 9, 1991. Ms.
21 Brainard's address is available at the registration table.

22 All participants in this public hearing will be
23 listed in the meeting record and Sherry Thorsen who is
24 sitting down here in the front is a court reporter. It's
25 her job to transcribe verbatim the proceedings of this

1 meeting. Because we want to develop a complete and accurate
2 record of comments, when you are called upon to speak,
3 please step up to the podium and speak into the microphone.
4 And, in order to help Ms. Thorsen do her job, anybody that
5 would like to make comments, please start by stating your
6 name and address.

7 If you would like to make comments this evening
8 and have not yet registered to do so, please sign up to do
9 so at the registration table. When we began the meeting, no
10 one had signed up to speak tonight and we are, therefore,
11 going to go immediately into a recess unless somebody wants
12 to make comments. The panel has agreed to stay until 8:00
13 o'clock p.m. and we will wait in case somebody comes in the
14 interim period that would like to make comments.

15 I would like to take a final opportunity to thank
16 you for coming this evening and we hope somebody will come
17 forward to make comments. So, I am correct that nobody has
18 signed up, is that correct? Okay. So, we will now go into
19 a recess and we will stay until 8:00 o'clock just in case
20 somebody comes and would like to make comments.

21 (Whereupon, at 7:30 p.m., a brief recess was taken.)

22 MS. GREEN: Okay, Mr. Stone?

23 MR. STONE: Good evening, Wendy, members of the panel.
24 My name is Jim Stone. I live at 1160 Pierce Street, Apt.
25 316, in Lakewood. I'm a former engineer at Rocky Flats.

1 So, I know something about the plant. I'd like to discuss
2 for a minute the operation of those evaporation ponds and
3 ask why aren't they operating as solar evaporation ponds?

4 MS. MATSUURA: Well, they're leaking and they're in
5 closure. They're not going to--they're planning on closing
6 them down and they're not going to use them anymore.

7 MR. STONE: Would you speak into the microphone please?
8 I can't hear you.

9 MS. MATSUURA: They're planning on closing the whole--
10 all of the evaporation ponds because they're not being used
11 anymore. They're leaking into the groundwater mound under-
12 neath and, in order to clean that up, they have to dry out
13 the ponds.

14 MR. STONE: It seems to me in the length of time we've
15 been talking about this problem and given the pan evapora-
16 tion in Colorado about 30 inches a year, it seems to me
17 they'd be dried up by now if you weren't recharging them
18 with continued operations.

19 MR. OGG: Pond 207A is, in essence, dry.

20 MR. STONE: Is it?

21 MR. OGG: Yes, it is.

22 MR. STONE: So, it's not leaking anymore?

23 MR. OGG: The water that is currently in Pond 207A is a
24 result from precipitation.

25 MR. STONE: That's what I was wondering why you didn't

1 prevent that? You're just chasing your tail unless you stop
2 the source.

3 MR. OGG: Well, we don't look at precipitation as being
4 a source. We are--

5 MR. STONE: It's a God-given source, as far as I know.

6 MR. OGG: Well--

7 MR. STONE: And, it will conduct it on into the ground-
8 water if gravity prevails there like everywhere else.

9 MR. DURAN: Well, there are plans to cover the ponds
10 once they are empty to prevent additional precipitation from
11 gathering in the ponds.

12 MR. OGG: And, basically, that's what the IM/IRA will
13 dictate in accordance with the IAG schedule for 1994.
14 That's what I discussed earlier is that will provide us with
15 a mechanism of doing some remediation to prevent any further
16 migration of contaminants from the solar ponds.

17 MR. STONE: But, I remember rejecting that plan in
18 1984.

19 MR. OGG: Rejecting what plan?

20 MR. STONE: The plan for the pond--so-called pondcrete
21 concept.

22 MR. OGG: Yes. This IM/IRA is not directly associated
23 with the pondcrete operations, per se. Again, this IM/IRA
24 strictly a function of utilizing the modular tanks and the
25 flash evaporators to support RCRA partial closure activ-

1 ities.

2 MR. STONE: It just seems to me like it takes an awful
3 long time to get a very rudimentary problem resolved out
4 there and I can't understand why. Now, if you want to
5 continue--

6 MR. OGG: Well, you are correct on that.

7 MR. STONE: All right. I'm sure you're frustrated.

8 MS. GREEN: Mr. Stone, I hate to intervene. This is a
9 hearing, as opposed to a question and answer session.

10 MR. STONE: Well, this is public comment.

11 MS. GREEN: I'm sorry. Yeah, well, public comment, but
12 there's not supposed to be a dialogue. So, can you restrict
13 yourself to comments, please?

14 MR. STONE: All right.

15 MS. GREEN: I'm sorry. I did not say that and I should
16 have.

17 MR. STONE: Yeah.

18 MS. GREEN: But, it is a public--

19 MR. STONE: Well, I came to learn. I didn't come to
20 teach. I come to--so, I've got to ask questions to some
21 extent.

22 MS. GREEN: Okay.

23 MR. STONE: All right. Another--I've got to ask a
24 question though to know how it operates because there wasn't
25 enough information there. We determined that one pond is

1 dry. Are the other two still wet?

2 MR. OGG: Actually, there's five impoundments, total.
3 Pond 207A is the largest impoundment and it is almost dry.
4 It was cleaned out in, I believe it was 1986 and through
5 1988.

6 MR. STONE: Well, we can assume that you're not con-
7 tributing to those ponds at this time?

8 MR. OGG: As I stated earlier, there is no more pro-
9 cessed waste being disposed of into the solar ponds. How-
10 ever, I also stated that Pond 207B North is being used to
11 store and treat the contaminated groundwater that's being
12 collected in the interceptor trench system and once we
13 basically get the IM/IRA approved by EPA and CDH, we will
14 divorce that aspect of the process from the solar ponds and
15 the contaminated groundwater would then be directed to the
16 modular tanks and subsequently to the flash evaporators for
17 final treatment.

18 MR. STONE: All right. Another thing I want to comment
19 on is one of the greatest God-given gifts we have in Colo-
20 rado is high, dry atmosphere, an abundance of sunshine ideal
21 for solar evaporation and here we are wasting energy with
22 some kind of evaporator system. That doesn't make a lot of
23 sense to me as an engineer especially with the so-called
24 energy conservation mode that DOE should be in continually.

25 That's all I have. Thank you.

1 MS. GREEN: Thank you very much. I'm sorry, I didn't
2 mean to cut you off.

3 MR. STONE: No problem.

4 MS. GREEN: Okay. Anybody else want to make comments?
5 Okay. Mr. Korkia?

6 MR. KORKIA: My name is Ken Korkia. I'm with the Rocky
7 Flats Cleanup Commission. The address is 1738 Wynkoop,
8 Suite 302, Denver. Zip is 80202. We will be submitting
9 formal written comments from the Cleanup Commission. I do
10 have a draft that I'll be reading some comments now into the
11 record.

12 Perhaps what we see as the most glaring defect in
13 this document is that it doesn't make a distinct discussion
14 of the pondcrete situation at the plant and we would have
15 liked to have seen some data included as to exactly how much
16 pondcrete will be produced by this evaporation process.
17 And, we tried to use what information was included in the
18 summary and it said that there would be a 1/50 reduction
19 factor and that was listed on Page 3-26. We applied that to
20 the approximately 8 million gallons of water to be sent to
21 the evaporators and that would give us approximately 160,000
22 gallons of waste that would be generated. Then, we would
23 add this to the amount of residues that would be generated
24 from the interceptor trench system water. Then, we also
25 have to add that to the pondcrete that will be produced from

1 the residues that are actually in the solar ponds right now.
2 And, so that we would like to see these figures and we would
3 appreciate it if they would have been included with the plan
4 because we still have problems with this pondcrete system.

5 And, we understand that you have called in experts
6 through Halliburton & Associates to come in and help you
7 with this situation and we hope that pondcrete will be a
8 solution and that if it is not, then we would like to see
9 some other alternative and maybe a discussion of alterna-
10 tives. In the light of alternatives, we also understand
11 that there's still a problem with the Nevada Test Site as
12 being a receptacle for the pondcrete wastes and we were
13 wondering if there would be any type of an alternatives plan
14 for the storage of the pondcrete waste should the Nevada
15 Test Site not be available.

16 There was also not adequate reference in the plan
17 as to how long it will take to accomplish. And, I did see
18 in the presentation tonight that it would be approximately
19 five to seven years that this system would be operational.

20 One of the other things that's curious about this
21 is the fact that this is called an Interim Measure/Interim
22 Remedial Action, but then we are to distinguish it from the
23 interim measure that was described in the IAG, and we were
24 just wondering why this sort of false label was given to
25 this action and we would like further comment on this. The

1 fact that there was mention made in the plan if there would
2 be a no action alternative, but then nothing was said about
3 any other alternatives and we had assumed for an interim
4 measure for any type of remedial action when you have these
5 proposals come out that there would be some mention of
6 alternatives. But, you do eventually mention alternatives
7 on Page 3-20, but you state, "In the event that specific
8 quality requirements are not obtained by the proposed sys-
9 tem, additional treatment units will be evaluated and incor-
10 porated into the treatment system as needed to meet or
11 exceed performance requirements." Well, this leads us to
12 believe that the alternatives may not be available at this
13 time and thus explaining their lack of inclusion in this
14 plan and we would like some clarification on that, whether
15 there really are alternatives to this program and, if there
16 are not, then it doesn't seem like it's a true interim
17 remedial action because these alternatives have not been
18 explained.

19 We also have problem with the treatability studies
20 that were conducted on the system. The fact that they were
21 tested using simulated water and these tests were conducted
22 down at the manufacturer in Florida. And, so we were won-
23 dering about how exactly the simulated water was estab-
24 lished. And then, we saw that the only data--or the most
25 current data that was found in the plan was found on Table

1 2-1 which was the 1988 data. So, we were wondering how we
2 can have full confidence in this treatability system when it
3 was using 1988 data. We would like to have seen it done
4 using 1991 data. So, we will be very interested to see the
5 results of the treatability and performance studies that are
6 conducted once the system is operational at the plant site.

7 We also are curious about the discussion of the
8 risk characterization that no mention was made about the
9 possible public and worker exposure due to wind blown dis-
10 persion of sediments from the ponds once they are dry.
11 We've had it explained to us before that actually there is
12 still some moisture left in the ponds, but then we can
13 imagine the system as the water begins to recede, that
14 surely there must be some dry areas exposed on the embank-
15 ments and what is preventing the wind from coming up and
16 driving sediments into the air and dispersing them both on
17 the plant site to the workers and then off the plant site to
18 the general public? And, so we would like to see discussion
19 of this risk included in the plan.

20 Just a minor technical point, on Page 3-2, there
21 was a statement made that there will be "a vapor compression
22 unit and three multiple effect/multiple stage flash evapora-
23 tors". And then, the diagram on Figure 3-1 shows that there
24 are three of these VC units and then three of the MMES units
25 and that would be one VC and one MMES acting as a pair.

1 And, so that's just a minor point, but it was rather con-
2 fusing at first because you got the impression there was one
3 VC unit, then there were three MMES coming off of it.

4 And, as I said, we will be submitting formal
5 written comments, but I would like at this time to enter
6 these as oral. Thank you,

7 MS. GREEN: Thanks, Mr. Korkia.

8 Ronald Harlan?

9 MR. HARLAN: It's amazing how quick. I just got here.
10 I'm Ronald Harlan, a resident of Boulder County, EG&G
11 employee, but speaking as a private citizen. I attended the
12 public information meeting. I'll keep my remarks pretty
13 short.

14 I don't see any big problems with it. I have
15 philosophical problems with the amount of money that's being
16 spent overall. The--is not only for OU4, but for all these
17 diversion canals and all of that. I do not believe that the
18 public is significantly endangered either by the off-site
19 releases or even by the ponds that are of concern here. I
20 understand that we've got a legal obligation to do something
21 about it. I support the work that's being done because we
22 have to meet the law. Other than that, I would be crying
23 into the wind to say that I don't necessarily agree with
24 Congress' attitude or EPA in all respects. I have many
25 philosophical differences, but overall I think you have an

1 effective plan of action.

2 Thank you.

3 MS. GREEN: Thank you, Mr. Harlan.

4 Okay. We will now recess until 8:00 o'clock
5 unless someone comes in who would like to make comment.

6 (Whereupon, a brief recess was taken.)

7 MS. GREEN: Okay. It is 8:00 o'clock and no one else
8 has come in that would like to speak. So, I will formally
9 adjourn the meeting. Thank you for coming.

10 (Whereupon, at 8:00 p.m., the hearing was concluded.)

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CERTIFICATE

TITLE: UNITED STATES DEPARTMENT OF ENERGY
ROCKY FLATS PUBLIC COMMENT MEETING
Interim Remedial Action at OU4
Solar Evaporation Ponds

DATE: OCTOBER 30, 1991

LOCATION: WESTMINSTER, COLORADO

I hereby certify that the proceedings herein are
contained fully and accurately on the tapes and notes
reported by me at the hearing in the above case before the
United States Department of Energy, and that this is a true
and correct transcript of the same.

Sherry Becker-Thorsen
Official Reporter

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